# HOW TO MAKE A 14th CENTURY TRESTLE TABLE

**By Baron Thorvald Olafson**

**8/1/01**

## SKILLS AND TOOLS REQUIRED

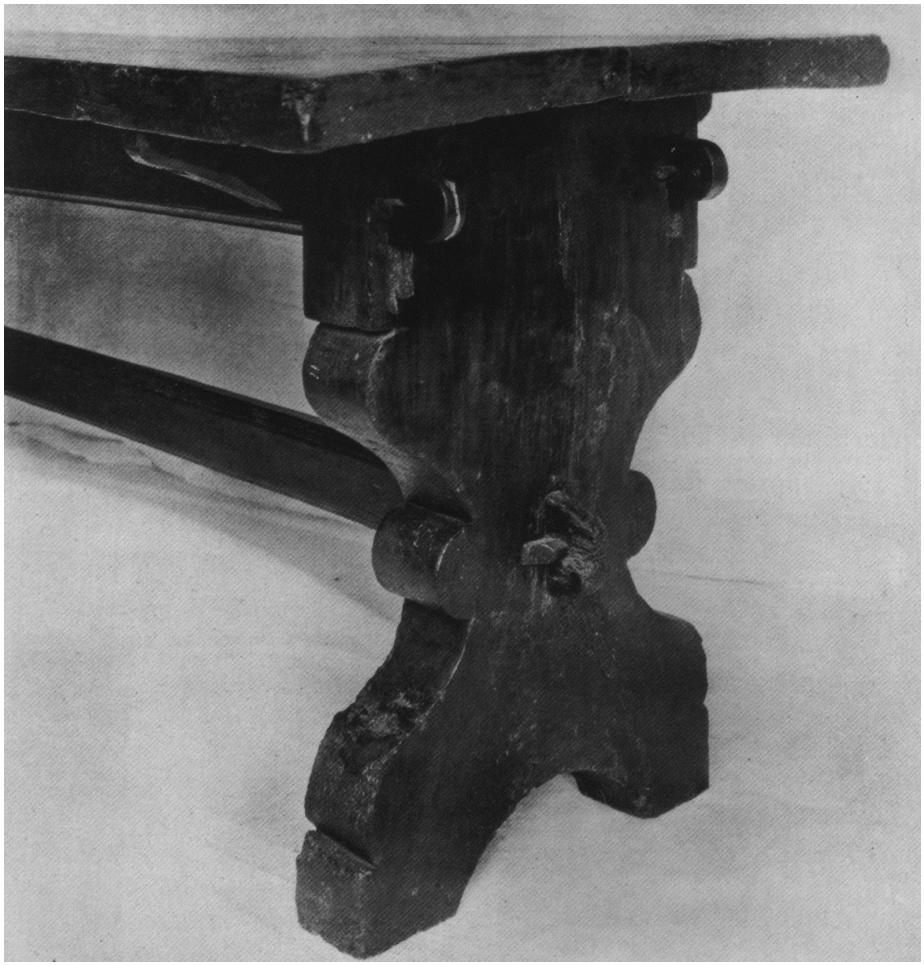
This project is designed for a craftsman with a moderate skill level. It should not be attempted by a begining woodworker, without the guidance or help of a experienced woodworker. Power tools needed: a tablesaw, a drill and a saber saw are needed for this project although a portable belt sander, and a detail sander make finish work easier and faster. Hand tools required: chisels and a mallet, sanding blocks, a scraper and a variety of different grit sand paper will be needed.

## A SHORT HISTORICAL BACKGROUND

The use of trestle tables goes back as far as Roman and classical Greek times. Put very simply: trestle tables were the folding tables of their time. The top rested on some manner of base and it all came apart to take up less space when not needed.

The Trestle Table became very popular in the Middle Ages, when many early forts and castles were designed for defense, not for comfort. All the people who lived in the castle would gather in the common room, or great hall, and eat together. Afterwards the table would be cleaned, dismantled and stored to one side. Then as the Lord, Lady and family of the castle would retire to their private rooms, everyone else would pull out straw pallets (if they were so lucky), or more likely just blankets, and sleep on the floor of the great hall. During the day the hall was cleared to allow business as the Lord saw fit.

As time progressed, the castles became more a symbol of power and prestige and less likely to have to act as defense. The population centers started to grow, and out of those, craftsmen flourished. The castles and manors started looking, and functioning, more like homes rather than the stark fortresses they were before. Because of this change, furniture, though still very useful, became part of the interior decorations that made it seem more "homey". The styling of everyday furniture became more ornate and involved as time went on. The table shown here is based on a table built in England around the year 1520 (see Figure 1).



Picture from "History of English Furniture, Vol. 1 the Age of Oak", p. 90, Macquoid, Peter

FIGURE 1

The original table is made from Elm, a light colored wood similar to Poplar. Almost any wood will work, although I chose Ash for my table. It's strong, but lighter than oak and has (in my opinion) a more distinctive "figure" or grain. I strongly recommend that a hard wood be used for durability. Hardwood is definitely more expensive but you get an excellent, quality piece of furniture when you are done.

I have deviated from the original design in a couple of ways. The tabletop of the original is 22 1/2" wide x 9'-0" long and 2" thick, and was most likely a single plank; my tabletop is 30" wide x 60" long and 1 1/2" thick. I planned to use this table for SCA events so I wanted it to be a manageable size. For the shapes of the legs I used a design that was more to my liking rather than those shown on the original. I have included a scaled pattern of the original, as well as my custom pattern.

**BUYING THE LUMBER**

I used 3/4" thick lumber to make the tabletop and 1 1/2" thick lumber for the legs and stretchers. Hardwood lumber comes in various widths, you will have to calculate how much wood to buy based on the widths available. It is best to purchase 10 to 20% more than you need to allow for mistakes or unforeseen problems. Make sure your lumber is straight and flat. Most hardwood lumberyards will offer the wood in various ways: rough sawn, S2S, S3S, S4S. The"rough sawn" term should be obvious, the other terms though relate to how many sides have been finished. You want S3S or S4S. That way you'll have two finished sides and at least one edge to use as a guide while cutting.

**MAKING THE TABLETOP**

The original tabletop was made from one plank of wood. Because of weight and cost I chose to layer the 3/4" lumber and make it appear twice as thick. You will want to start by gluing together several pieces of wood to make a "plank" measuring 31" x 61", 3/4" thick. This is 1" larger than our final size; the extra (1/2" per side) will be trimmed off later when the tabletop is squared up and finished. Since the lumber is in random widths, cut enough lengths until you have a width of 31". Don't worry about uniformity, a 1" wide board next to a 6" wide board will look fine. Look at the grain on the edge of the wood. The grain will show as growth rings. The inside of the radius is the side which grew closer to the heart of the tree, the outside of the radius is the bark side. Align the wood so that each piece of wood alternates in the direction the rings curve; (see Figure 2).

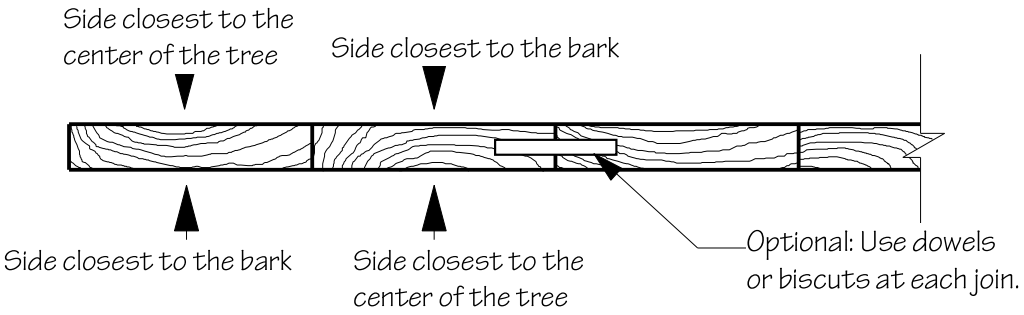

Side closest to the center of the tree
Side closest to the bark
Side closest to the bark
Side closest to the center of the tree
Optional: Use dowels or biscuts at each join.

FIGURE 2

Mating the wood planks this way will keep your tabletop flatter and it will be less likely to get splits in the wood. You can use dowel pins or biscuits to help align the wood planks together, but just gluing the wood will still give you a good solid join. There are many types of wood glue available. Some set fast, some slow, it's mostly a matter of preference. I like to use Tightbond Wood Glue. Apply enough glue to fully coat each edge. Use a damp rag to clean up any excess glue, while it's wet, that sqeezes out when clamping the tabletop together. Set aside to allow the glue to set.

Next is building up the edge. Cut two 2" wide x 3/4" thick x 61" long strips of wood. Glue these to the underside of the tabletop "plank" to thicken the long edges to 1 1/2" thick (see Figure 3).

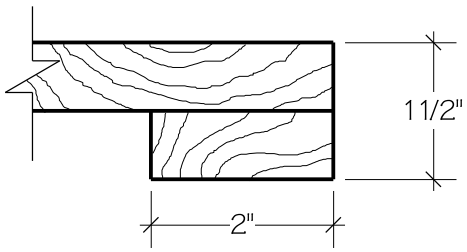
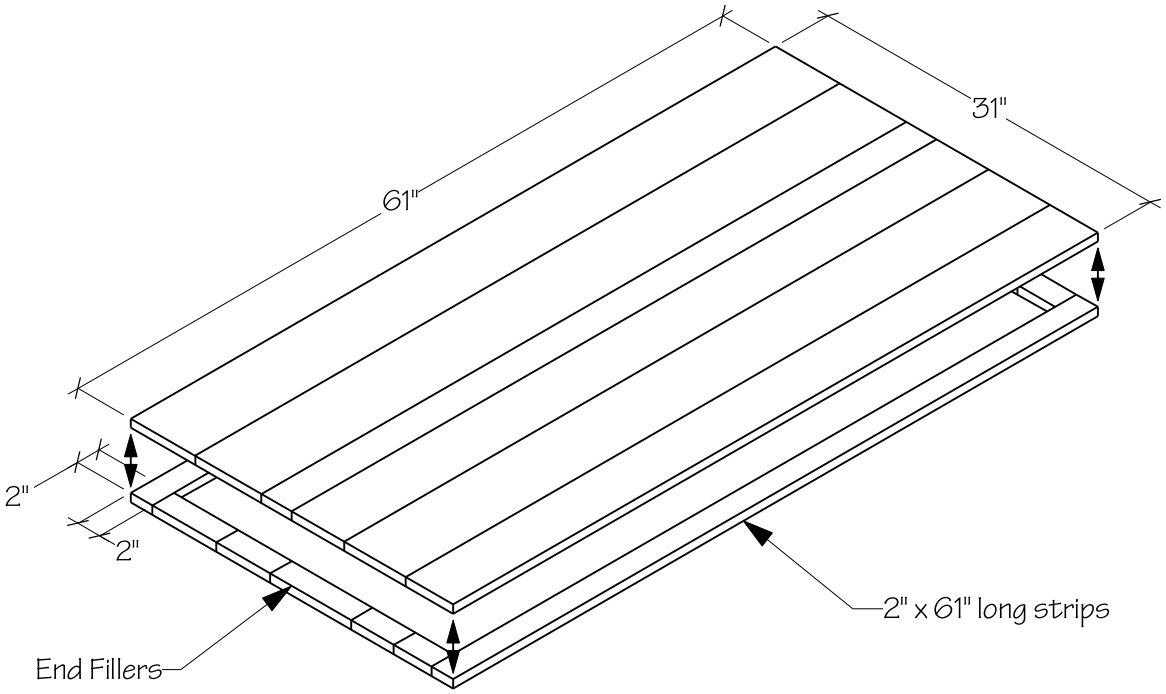



FIGURE 3

Cut filler blocks 2" long to thicken the short ends of the Tabletop, glue into place (see Figure 4). The grain has to go the same direction as the tabletop or it won't look right.

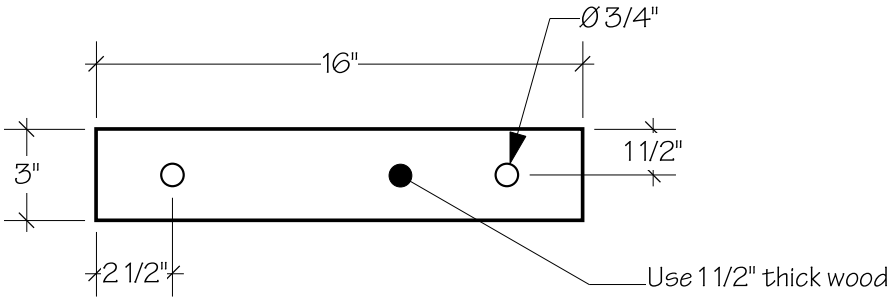



Tabletop "Thickening"

FIGURE 4

When you're done you have a top that looks like a solid 1 1/2" thick top but is almost half the weight. It gives the table that massive look that is so common in medieval furniture. Trim and square off the tabletop to 30" x 60". Then smooth the surface of the tabletop using an electric belt sander, a plane or a sanding block. Each has it own pluses and minuses. Be carefull with the belt sander, one slip can cause a pretty deep groove, which you'll have a very hard time removing.

Next, add the locator blocking for the legs: cut two pieces of wood 1 1/2" thick 3" x 16"; drill two holes as indicated in Figure 5.




Locator Blocking - 2 required

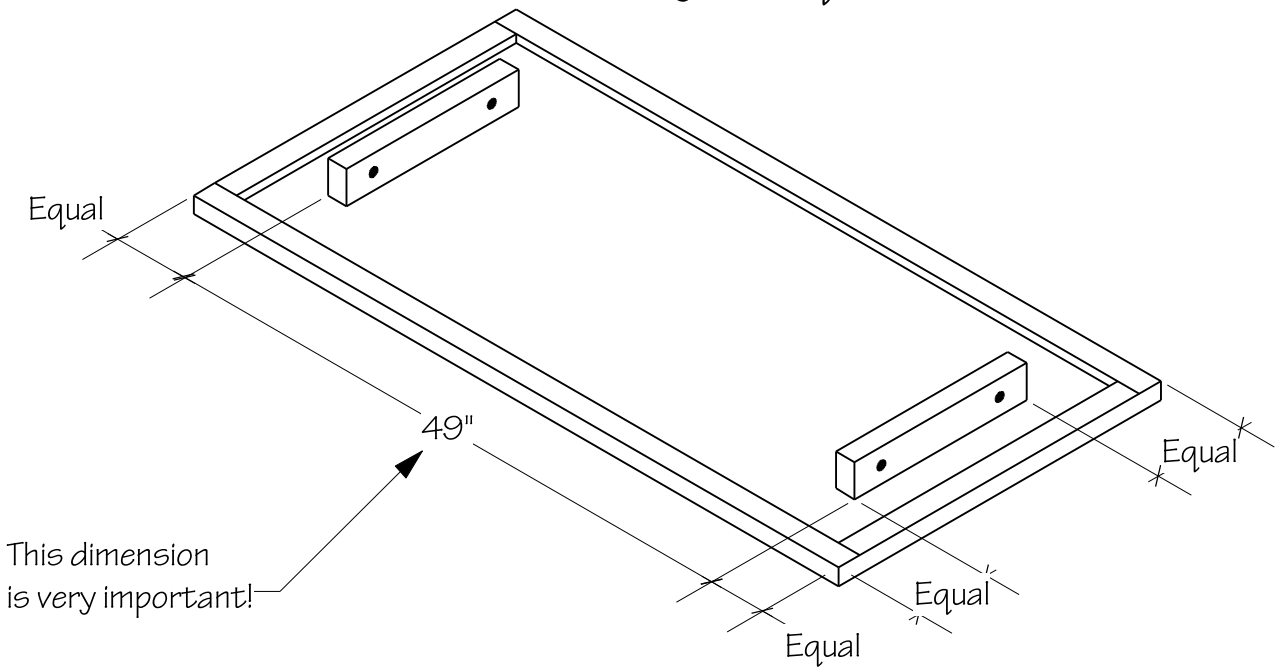



FIGURE 5

Figure 5 shows where to glue the Locator Blocking. The Locator Blocking does three things. First, it locates and centers the table top onto the legs and stretchers. Second, it helps stabilize the top and keeps it from warping. Third, during the final assembly, dowels are put through the holes into corresponding holes in the legs. This locks the table together and allows the table to be picked up and moved as one piece.

After adding the locator blocks, radius all the sharp edges around the Tabletop with a file or sanding block. The Tabletop is now complete.

**MAKING THE LEGS**

Using the same technique of gluing together planks edge to edge, cut enough 1 1/2" thick wood pieces to glue together and create two rectangles 24" wide x 29 1/4" tall. Cut the lengths a little long, ( approximately 30") and trim to size, making sure that the top and bottom edges are parallel to each other. The 24" width is not as critical since most of it will be removed. Remember to alternate the end grains when gluing planks together to help avoid warping. If you use dowels or biscuits to hold the wood joins together then be very careful of your placement; they might show after you have shaped the legs.

Use a good stiff poster board or cardboard to copy either of the scaled down patterns provided, (see Figures 6 & 7 at the end of the paper), at full scale, or a pattern of your own, full scale . **NOTE:** you will have to modify the Locator Blocking detailed earlier to work with the original table leg pattern. You will only need to create half of any pattern, and just flip it over to mark the other side.

Use a jig saw with a good sharp blade to cut the legs out. Take your time; the more care you put into this stage the less hand work will be needed in the next stage. Using files and sanding blocks finish the edges of the legs. Cut the square holes for the stretchers. File the square holes carefully: as they need to be accurate.

**MAKING THE STRETCHERS & PEGS**

Cut three lengths of 1 1/2" thick wood, 3" wide x 56" long. Notch both ends as shown in Figure 8.

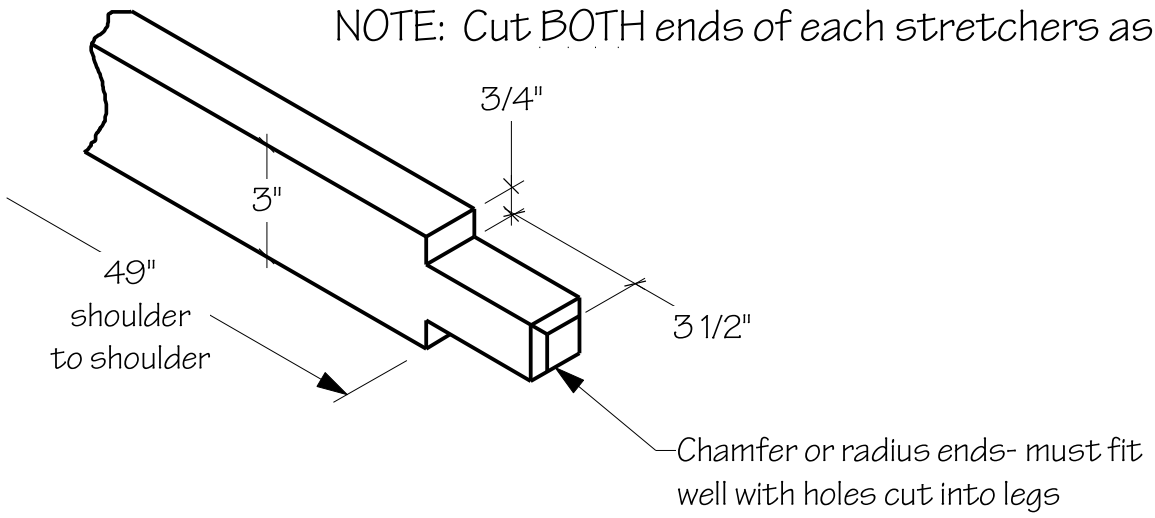
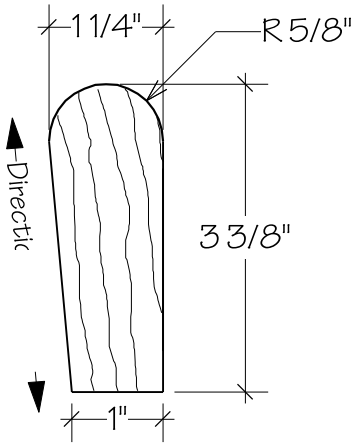



FIGURE 8

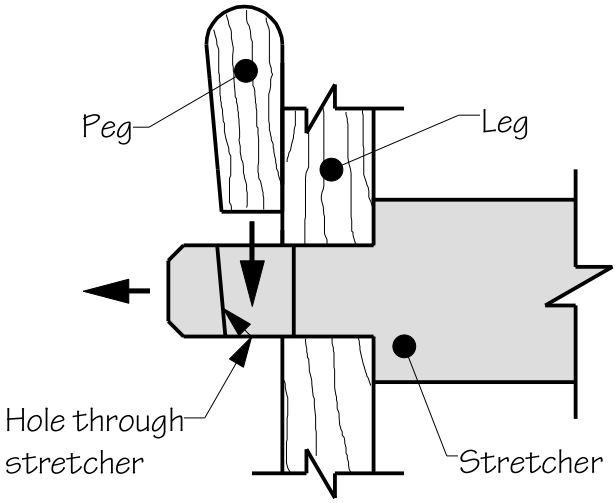
Check fit with holes cut into legs. They should slide in without forcing them, but should not be too loose. For ease of assembly and handling use a file or a sanding block to radius all the sharp edges on the Stretchers.

Cut 6 pegs out of 3/4" thick wood as shown in Figure 9. Make sure the grain direction is oriented correctly. This will make the pegs stronger and less likely to crack when you tap them into place.

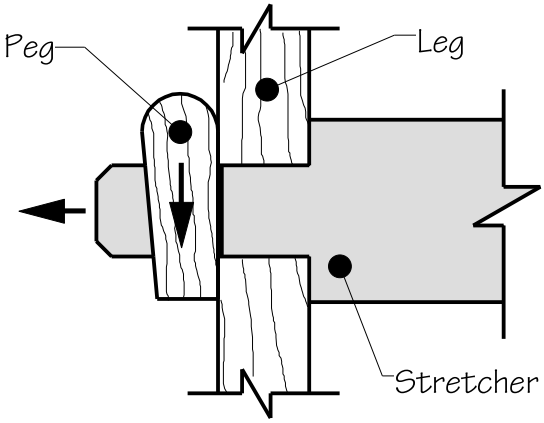
Next chisel out the holes through the stretchers for the pegs (see Figure 10). The hole should be flat (90º) toward the shoulder of the stretcher and tapered to match the peg at the far ends. Notice that the hole starts 1 7/16" from the shoulder, not 1 1/2". This is very important. The taper of the peg forces the stretcher through the hole in the leg. It also uses that force to lock and hold the table together as a unit. If the peg touches the side of the hole then the peg will be loose and the table will be unstable. See Figure 9.




Peg - Shown half size



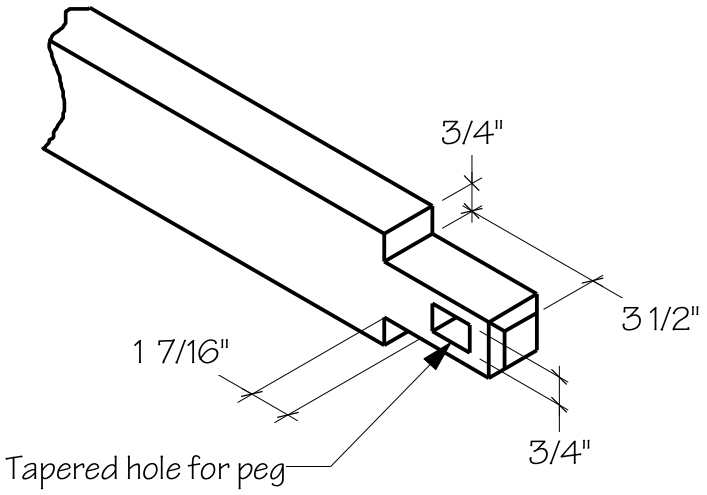

Peg Assembly Detail - Step #1



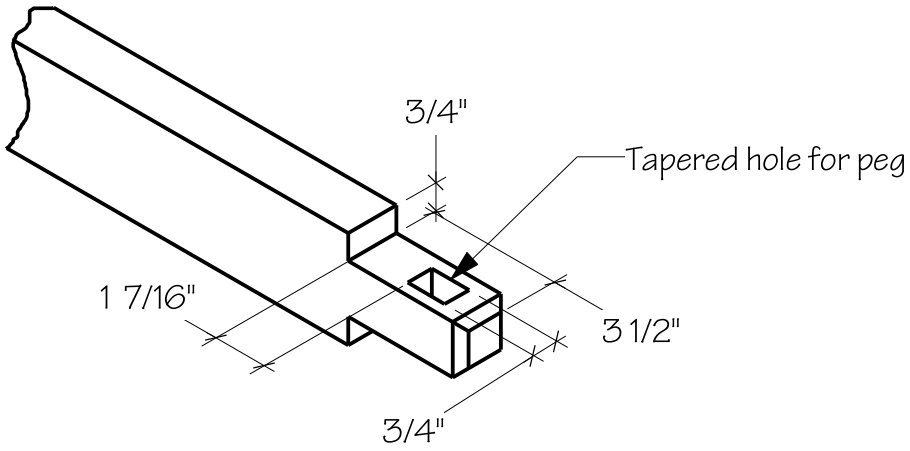

Peg Assembly Detail - Step #2

FIGURE 9

Also note that the Peg holes for the two upper stretchers are cut in differently than the center Stretcher, see Figure10.




Upper Stretchers - 2 required




Center Stretcher - 1 required

FIGURE 10

**FINAL ASSEMBLY (see Figure 11)**

Place the tabletop upside down on a workbench or on a pair of sawhorses. Assemble the legs and stretchers and locate them on the inverted top.

The legs should butt against the outside faces of the Locator Blocks. Make sure

the legs are centered on the width (30" dimension). You may want to glue in some additional 3/4" thick wood blocks so the legs are always located correctly (see Figure 11).

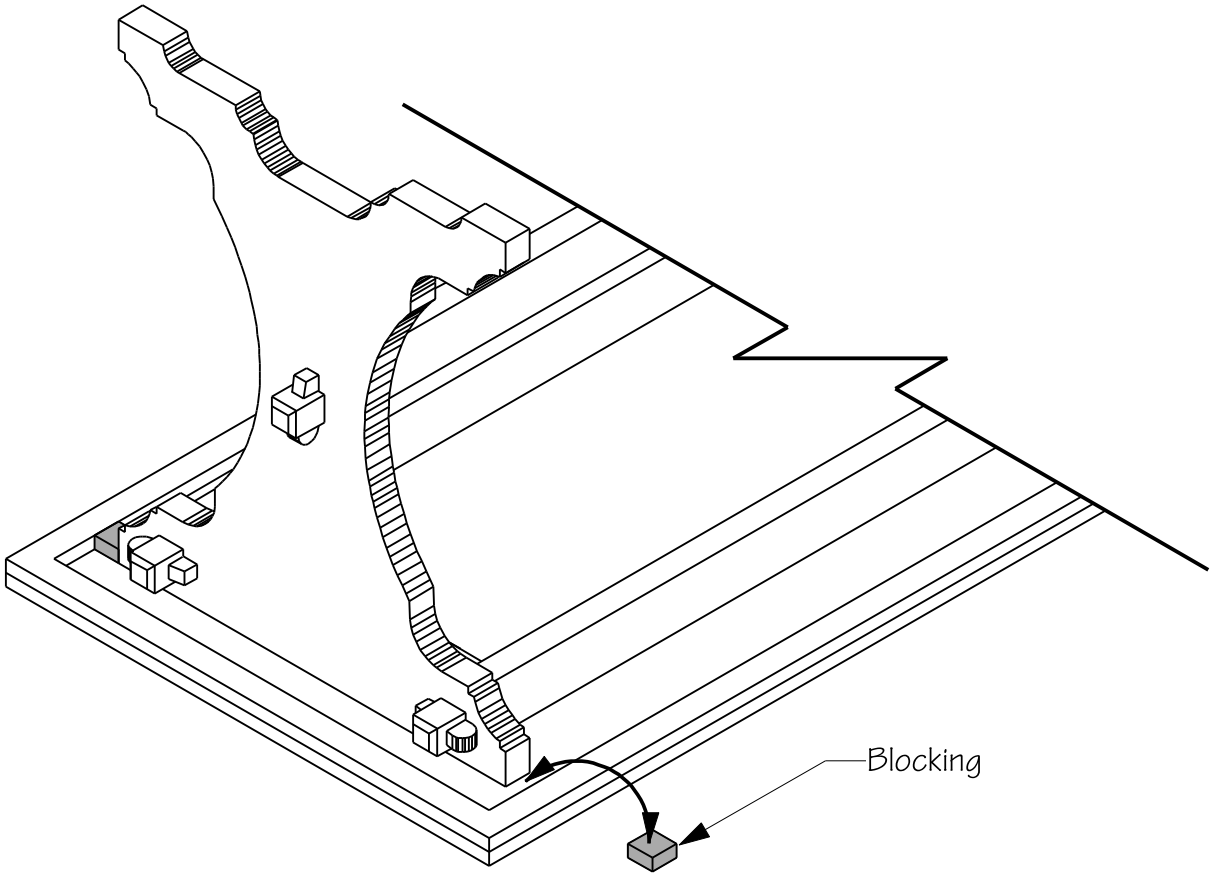



FIGURE 11

Use the holes already drilled in the Locator Blocks as a guide and drill 3/4" diameter holes about 1" deep into the legs, make sure NOT to drill all the way through. Cut four, 4" long pieces of 3/4" diameter dowel. They will be used as pins to hold the tabletop to the Legs and Stretchers. With the pins in you can move the table in one piece. see Figure 12.

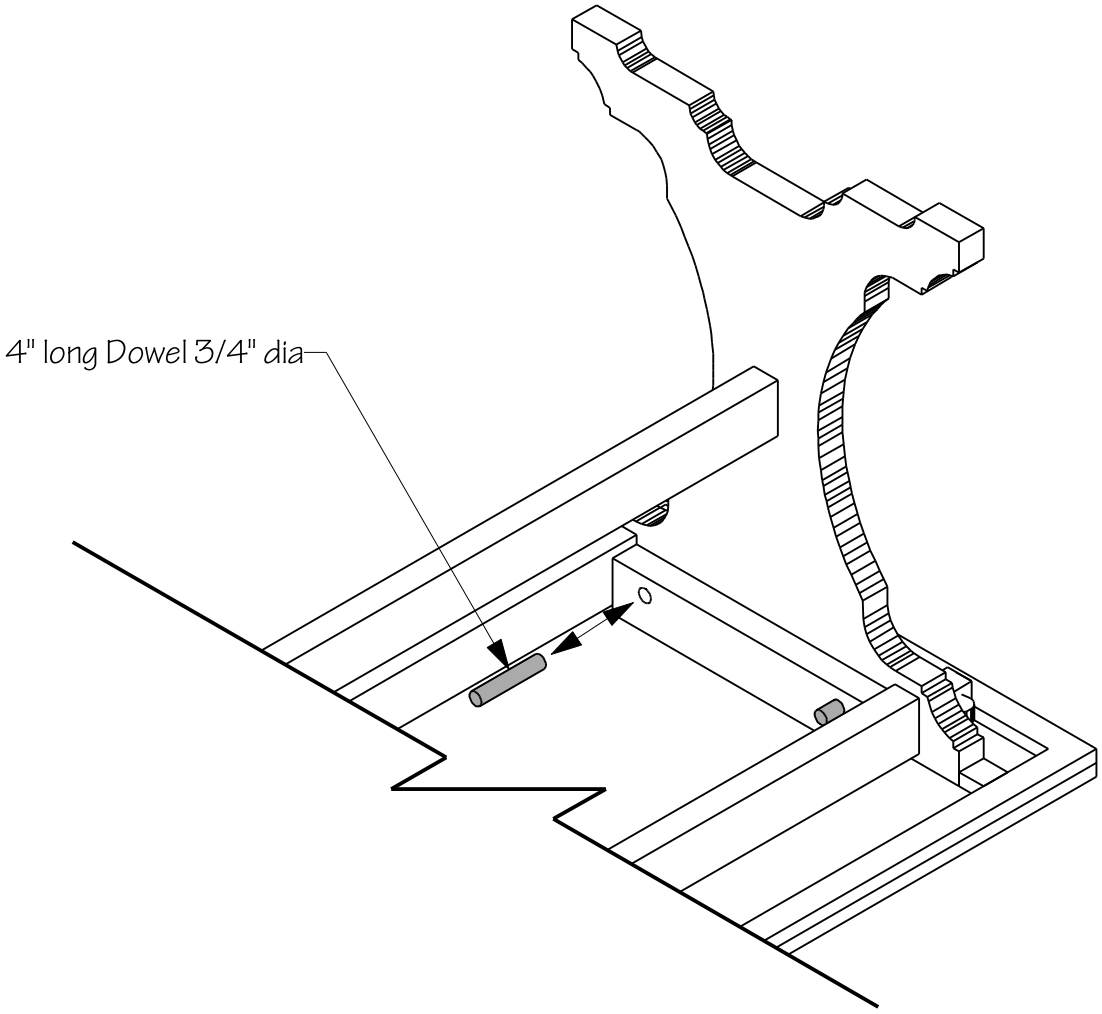



FIGURE 12

FINISHED ASSEMBLED TABLE

**NOTES ON FINISHING**

Sandpaper did not exist in the Middle Ages. The craftsmen could still get a very fine, smooth finish on their pieces by scraping the wood. Wood scrapers are available at most hardware stores. A scraper is a piece of good steel approximately 1/16" thick with square edges. You tilt the scraper on one of it's corners and draw the scrapper to yourself with even force. Practice is recommended on a piece of scrap wood. Scrapers work better on hardwood than softwood.

Trestle tables like these took lots of abuse during the course of their life. If you so desire you can take a chain and beat your finished table to give it a "used" or distressed look. Another way to get a distressed look is to unevenly round the edges of the top. Imagine years and years of elbows, and what not, wearing on the edges.

Wood furniture in the Middle Ages was not stained or sealed. The furniture would be wiped down with oily rags to pick up the dust and food residue, and would naturally soak up some of the oils. Body oils from hands, and grease and fat from foods would also get soaked up. Just by using the table it would get sealed over time.

The primary reasons for sealing wood are to keep the wood from drying out completely and cracking and to keep the wood from soaking up random stains and ruining the look of the piece. I highly recommend using a clear Danish finishing oil to seal the wood. It soaks into the wood and seals it, giving the wood a nice "glow" without the modern look of polyurethane or similar products.

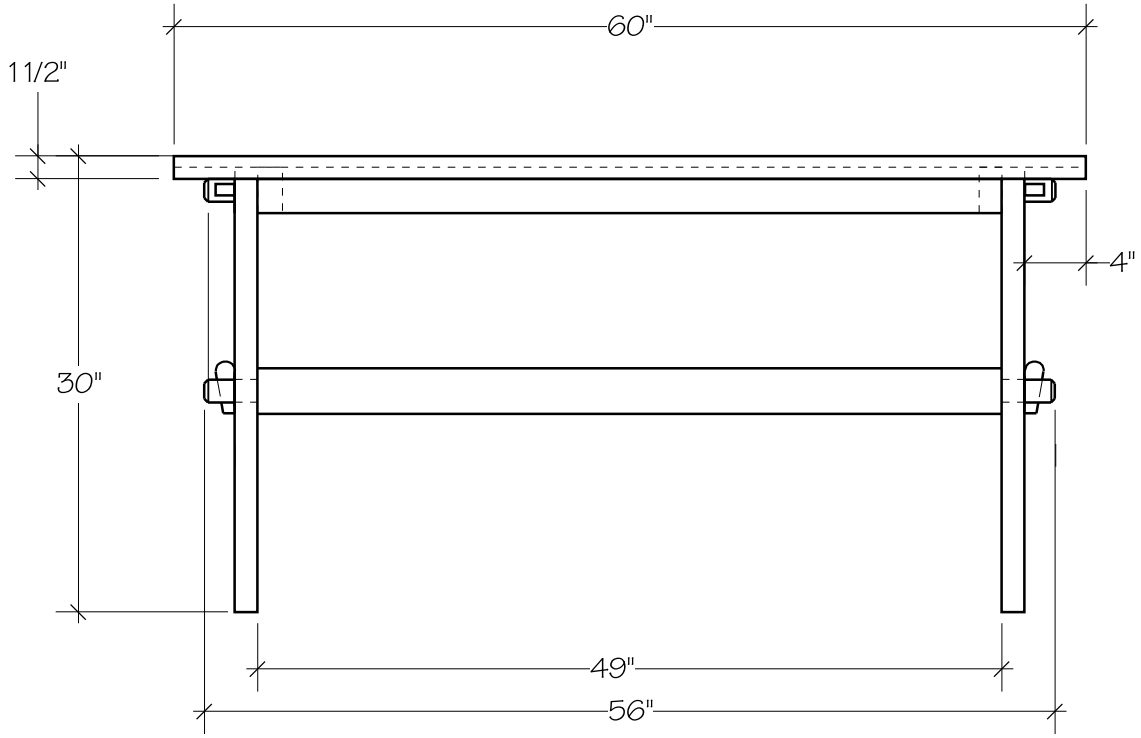
The one drawback with using Danish finishing oils is that they have to be reapplied about once a year, depending on use. If you plan to use your table at camping events I recommend using a clear floor sealer made for hardwood floors. By nature, these products are very durable and are made to seal against accidental spills. Make sure you don't get one with a glossy finish. It wasn't until the 1600's that "shellac" was widely used on furniture. Shellac is made from the carapaces of certain beetles, and it comes from the Far East and India.

**COLOR STAINS AND "RAISING THE GRAIN"**

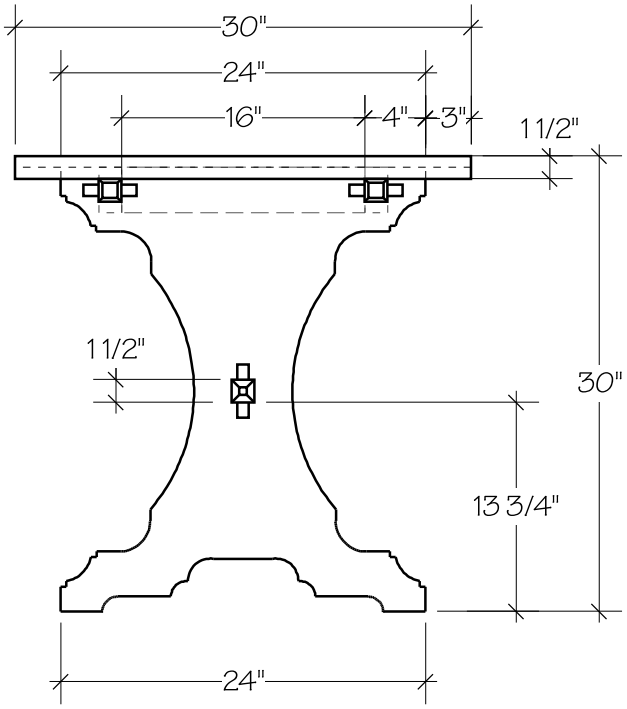
Before you seal the wood you can use a stain to simulate the natural darkening process of wood when it's exposed to air and to daily use (and misuse). When using dark stains, don't overdo it. Practice on a scrap of wood until you get the look you are trying to achieve.

To get a nice professional finish you need to "raise the grain" of your wood prior to applying your stain. Sand (or scrape) your wood down to a 100 - 120 grit finish. Take a damp cloth (dry enough so that the cloth doesn't drip but wet enough that when you wring it plenty of water flows) and wipe down all parts of your wood. After the wood has dried you will notice that it has gotten "fuzzy" or "furry". This is caused by the natural process of the cells in the wood collecting moisture to feed the tree.

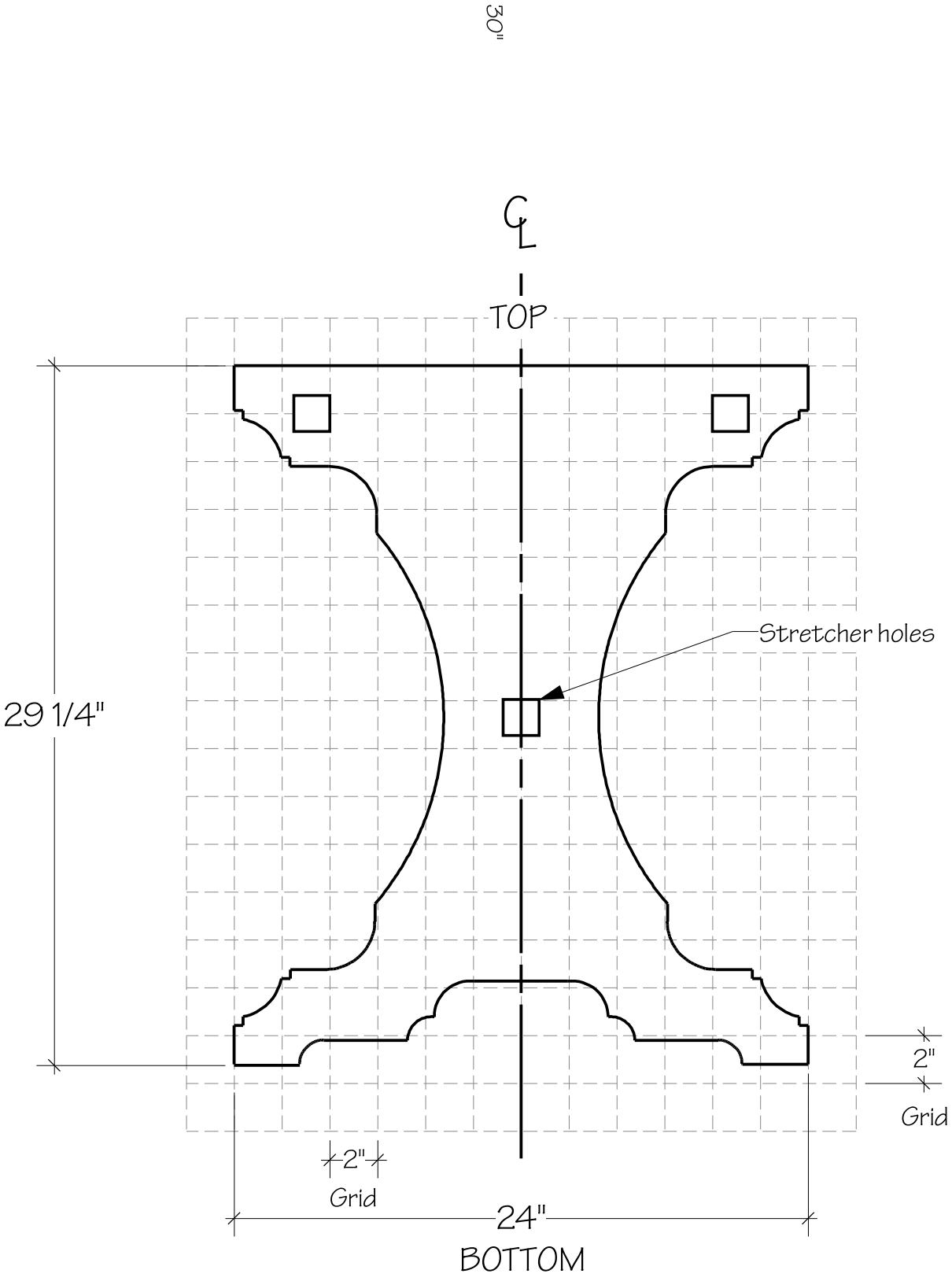
Now you can sand the surface smooth to a 220 grit finish, or scrape again. If you don't "raise the grain", then the water in the stain will cause the cells in the wood to react the same way and you'll get a "furry" finish on your wood. If you allow 24 hours, or so, for your stain to dry thoroughly, you can then oil seal or use wood flooring sealer to finish the wood.




SIDE VIEW

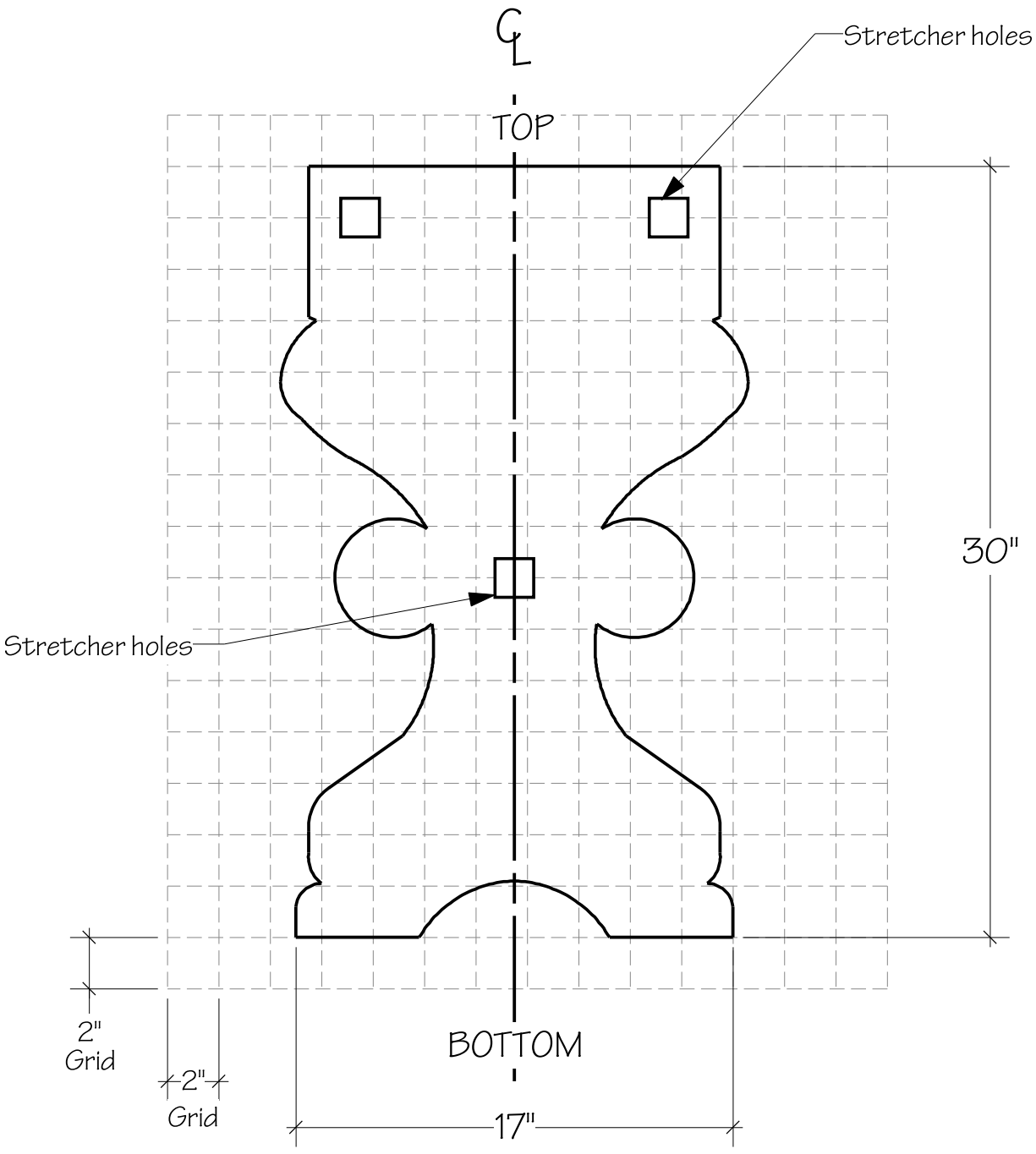



END VIEW




My Leg Pattern

FIGURE 6




Original Leg Pattern
FIGURE 7